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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/611,133 | 07/06/2000 | Hong Heather Yu | 9432-000085 | 5275 |

7590 07/17/2003
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| EXAMINER |
|-----------------|
| CZEKAJ, DAVID J |

| ART UNIT | PAPER NUMBER |
|----------|--------------|
| 2613 | |

DATE MAILED: 07/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/611,133

Applicant(s)

YU, HONG HEATHER

Examiner

Dave Czekaj

Art Unit

2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 18-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☒ Claim(s) 18-20 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 7-6-2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-17, drawn to a video segmenter, classified in class 375, subclass 240.08.
 - II. Claims 18-20, drawn to video retrieval system, classified in class 382, subclass 305.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention I has separate utility such as the video segmenter can be used for compression purposes were group II is for indexing of video segments. See MPEP § 806.05(d).

3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

4. During a telephone conversation with Mr. Stobbes on 6-30-03 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-17. Affirmation of this election must be made by applicant in replying to this Office action. Claims 18-20 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-17 are rejected under 35 U.S.C. 102(e) as being anticipated by Yu et al. (A Hierarchical Multiresolution Video Shot Transition Detection Scheme), (hereinafter referred to as "Yu").

Regarding claims 1-3, Yu discloses a video shot transition detection system comprising of an input video source consisting of AC and DC luminance signals, a frequency decomposer connected to the video source that generates a low-resolution component consisting of a set of x by y coefficients, and a cut detector connected to the frequency decomposer and input video source (Yu: page 203, figure 7).

Regarding claims 4 and 5, Yu discloses a frequency decomposer that employs a Haar wavelet decomposition (Yu: page 203, figure 7).

Regarding claims 6 and 11, Yu discloses a cut threshold generator, difference signal generator, a summer, linear signal generator, and a comparator (Yu: pages 203-204, equations 9-12, and figure 9).

Regarding claim 7, Yu discloses a weighting function (Yu: page 203, section 4.3-line5).

Regarding claims 8-9, Yu discloses a frequency decomposer that generates a high-resolution component and a cut detector that identifies a pair of cuts (Yu: page 204, figure 9).

Regarding claim 10, Yu discloses a fade detecting procedure that identifies a fade using the high-resolution component (Yu: page 203, figure 7).

Regarding claim 12, Yu displays a linearly decreasing signal (Yu: page 204, figure 8).

Regarding claim 13, Yu discloses a dissolve detection procedure that identifies dissolves using the high and low-resolution component.

Regarding claims 14-17, Yu discloses a system which identifies starting and ending points of a dissolve, a difference, summing, and smoothing apparatus, and employs a double chromatic difference algorithm (Yu: pages 202-204, equations 9-12, and figure 9).

The applied reference has a common inventor with the instant application.

Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in

the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

3. Claims 1-4 and 6-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Niikura et al. (5911008), (hereinafter referred to as "Niikura").

Regarding claims 1-2, Niikura discloses an apparatus comprising of a video source, frequency decomposer that generates low frequency components (consisting of a set of x and y coefficients), and a shot boundary or "cut" detector (Niikura: column 14, lines 45-47 and figure 15) where the DC component is considered "low frequency".

Regarding claim 3, Niikura discloses that the input is a "compressed image data sequence" (Niikura: column 14, lines 45-47) that has an AC and DC luminance signal ("extracting the DC component of the DCT coefficients") (Niikura: column 20, lines 45-47).

Regarding claim 4, Niikura discloses an apparatus having a frequency decomposer comprising of a discrete Cosine transformation (DCT) (Niikura: column 18, lines 6-7).

Regarding claim 6, Niikura discloses a means for calculating a difference signal, and then comparing the difference signal to a threshold value to determine if a shot boundary or "cut detector" exists (Niikura: figure 25).

Regarding claim 7, Niikura discloses that it is "possible to vary these weights and thresholds" (Niikura: column 16, lines 12-15).

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Regarding claim 8, Niikura discloses that he uses a discrete Cosine transformation (DCT) (Niikura: column 18, lines 6-7). A high frequency component (AC) is generated, but Niikura chooses to only use the low or "DC" component.

Regarding claim 9, Niikura discloses a shot boundary or "cut" detector that identifies the first and second cut transitions (Niikura: figure 28).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 10 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niikura et al. (5911008), (hereinafter referred to as Niikura) in view of Oguro (5477276).

Niikura discloses an apparatus comprising of a video source, frequency decomposer that generates low frequency components (consisting of a set of x and y coefficients), and a shot boundary or "cut" detector (Niikura: column 14, lines 45-47 and figure 15) where the DC component is considered "low frequency". Although the DCT used in Niikura's apparatus generates AC and DC coefficients, Niikura elects to only use the DC or "low" component. Therefore, this apparatus lacks the fade detector using the high frequency component as claimed. Oguro teaches how to achieve or create a fade-in, fade-out, and scene

change effect using both AC and DC frequency components. The examiner notes that by knowing how a fade is created, one could easily implement an apparatus to detect a fade transition. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to take the apparatus disclosed by Niikura and apply the teachings by Oguro in order to create an invention that could detect both shot boundaries or "cuts" and fades.

Regarding claim 13, the examiner notes that a "dissolve" falls into a category between a fade-in, fade-out, and scene change effect.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

| | | |
|------------|----------|-----------------------|
| US-5911008 | 06-08-99 | Niikura et al. |
| US-5477276 | 12-19-95 | Oguro, Masaki |
| US-6327390 | 12-04-01 | Sun et al. |
| US-6449392 | 09-10-02 | Divakaran et al. |
| US-6061471 | 05-09-00 | Coleman, E. North Jr. |
| US-6459733 | 10-01-02 | Yokoyama et al. |
| US-6327390 | 12-04-01 | Sun et al. |
| US-6493042 | 12-10-02 | Bozdagi et al. |
| US-5245436 | 09-14-93 | Alattar, Adnan M. |


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dave Czekaj whose telephone number is (703) 305-3418. The examiner can normally be reached on Monday - Friday 9 hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Kelley can be reached on (703) 305-4856. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872 9314 for regular communications and (703) 872 9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

July 2, 2003


CHRIS KELLEY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600